

PLASTICS ARE FOR CARS AFTER ALL

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Abstract

About a decade ago, Francois Castaing, then Vice President, Vehicle Engineering for Chrysler Corporation, stated “Steel is for cars, aluminum is for airplanes, and plastics are for toys.” Not only did this statement help stimulate the American Plastics Council to develop *Plastics in Automotive Markets Vision and Technology Roadmap*, it may also have stimulated The Boeing Company to develop the 787 Dreamliner using plastic composites instead of aluminum. In 2000, the Washington Times newspaper reported that “Aerospace engineers have considered aluminum the material of choice for decades and there is no foreseeable replacement in sight.” How shortsighted such a statement turned out to be. Would it be wise to make a similar statement today for steel as the material of choice in cars? History, today’s technology, and the future of sustainable transportation suggest otherwise. A wiser choice would be to assume dramatic change in how cars are designed, manufactured, powered, and used. A wiser choice would be to think proactively, globally, and cooperatively on how lightweight plastics, plastic composites, and plastic-metal hybrid materials will emerge as the materials of choice by 2020 to balance styling, safety, energy demand, and environmental performance. What has to happen to make such a change a reality? The list is not short and not trivial, but a roadmap exists to help define challenges and opportunities for both the public and private sectors. Most importantly, significant progress, both strategically and tactically, is becoming evident every day, and major breakthroughs and accomplishments can be highlighted.